

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

August 28, 2014

Project: Sunoco M.H.(RCRA)

Submittal Date: 08/15/2014

Group Number: 1496519

PO Number: SUN MARCUS HOOK RCRA

State of Sample Origin: PA

Client Sample DescriptionMW-17 Grab Groundwater
MW-28 Grab Groundwater
MW-30 Grab Groundwater
MW-40 Grab Groundwater
MW-86 Grab Groundwater
Trip Blank WaterLancaster Labs (LL) #7567473
7567474
7567475
7567476
7567477
7567478

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Stantec
COPY TO

Attn: Stephanie Andrews

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: MW-17 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567473
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 09:55 by C

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles EPA 624					
10371	Benzene	71-43-2	N.D.	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1
GC/MS Semivolatiles EPA 625					
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	1 J	0.9	1
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
Metals SW-846 6010B					
07051	Chromium	7440-47-3	3.1 J	1.3	1
07055	Lead	7439-92-1	N.D.	4.7	1
Wet Chemistry EPA 335.4					
00237	Total Cyanide (water)	57-12-5	N.D.	5.0	1
EPA 1664A					
00612	SGT-HEM (TPH)	n.a.	N.D.	1,400	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	M142321AA	08/20/2014 14:28	Linda C Pape	1
10334	SVOCs 625	EPA 625	1	14228WAC625	08/18/2014 16:03	William H Saadeh	1
08108	625 Water Extraction	EPA 625	1	14228WAC625	08/17/2014 21:00	Nicholas W Shroyer	1
07051	Chromium	SW-846 6010B	1	142301848004	08/20/2014 17:47	John P Hook	1
07055	Lead	SW-846 6010B	1	142301848004	08/20/2014 17:47	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142301848004	08/19/2014 13:24	James L Mertzt	1
00237	Total Cyanide (water)	EPA 335.4	1	14232102101A	08/21/2014 10:12	Joseph E McKenzie	1

Sample Description: MW-17 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567473
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 09:55 by C

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1060 Andrew Drive

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Suite 140

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West Chester PA 19380

MHR17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00492	Cyanide Water Distillation	EPA 335.4	1	14232102101A	08/20/2014 12:00	Joseph E McKenzie	1
00612	SGT-HEM (TPH)	EPA 1664A	1	14237807801A	08/25/2014 10:34	Yolunder Y Bunch	1

Sample Description: MW-28 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567474
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 10:39 by C

Stantec

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Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR28

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles EPA 624					
10371	Benzene	71-43-2	N.D.	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1
GC/MS Semivolatiles EPA 625					
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
Metals SW-846 6010B					
07051	Chromium	7440-47-3	4.1 J	1.3	1
07055	Lead	7439-92-1	N.D.	4.7	1
Wet Chemistry EPA 335.4					
00237	Total Cyanide (water)	57-12-5	N.D.	5.0	1
EPA 1664A					
00612	SGT-HEM (TPH)	n.a.	N.D.	1,400	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	M142321AA	08/20/2014 14:53	Linda C Pape	1
10334	SVOCs 625	EPA 625	1	14228WAC625	08/18/2014 16:27	William H Saadeh	1
08108	625 Water Extraction	EPA 625	1	14228WAC625	08/17/2014 21:00	Nicholas W Shroyer	1
07051	Chromium	SW-846 6010B	1	142301848004	08/20/2014 17:51	John P Hook	1
07055	Lead	SW-846 6010B	1	142301848004	08/20/2014 17:51	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142301848004	08/19/2014 13:24	James L Mertzt	1
00237	Total Cyanide (water)	EPA 335.4	1	14232102101A	08/21/2014 10:13	Joseph E McKenzie	1

Sample Description: MW-28 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567474
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 10:39 by C

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Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR28

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00492	Cyanide Water Distillation	EPA 335.4	1	14232102101A	08/20/2014 12:00	Joseph E McKenzie	1
00612	SGT-HEM (TPH)	EPA 1664A	2	14237807801A	08/25/2014 10:34	Yolunder Y Bunch	1

Sample Description: MW-30 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567475
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 11:25 by C

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Submitted: 08/15/2014 17:33

Reported: 08/28/2014 10:39

MHR30

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles EPA 624					
10371	Benzene	71-43-2	2 J	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1
GC/MS Semivolatiles EPA 625					
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Naphthalene	91-20-3	0.6 J	0.2	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
Metals SW-846 6010B					
07051	Chromium	7440-47-3	8.5 J	1.3	1
07055	Lead	7439-92-1	N.D.	4.7	1
Wet Chemistry EPA 335.4					
00237	Total Cyanide (water)	57-12-5	N.D.	5.0	1
EPA 1664A					
00612	SGT-HEM (TPH)	n.a.	N.D.	1,400	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	M142321AA	08/20/2014 15:19	Linda C Pape	1
10334	SVOCs 625	EPA 625	1	14228WAC625	08/18/2014 16:51	William H Saadeh	1
08108	625 Water Extraction	EPA 625	1	14228WAC625	08/17/2014 21:00	Nicholas W Shroyer	1
07051	Chromium	SW-846 6010B	1	142301848004	08/20/2014 17:54	John P Hook	1
07055	Lead	SW-846 6010B	1	142301848004	08/20/2014 17:54	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142301848004	08/19/2014 13:24	James L Mertz	1
00237	Total Cyanide (water)	EPA 335.4	1	14232102101A	08/21/2014 10:15	Joseph E McKenzie	1

Sample Description: MW-30 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567475
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 11:25 by C

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00492	Cyanide Water Distillation	EPA 335.4	1	14232102101A	08/20/2014 12:00	Joseph E McKenzie	1
00612	SGT-HEM (TPH)	EPA 1664A	1	14237807801A	08/25/2014 10:34	Yolunder Y Bunch	1

Sample Description: MW-40 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567476
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 11:59 by C

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR40

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles EPA 624					
10371	Benzene	71-43-2	N.D.	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1
GC/MS Semivolatiles EPA 625					
10334	Acenaphthene	83-32-9	0.8 J	0.3	1
10334	Anthracene	120-12-7	0.7 J	0.2	1
10334	Benzo(a)anthracene	56-55-3	2 J	0.2	1
10334	Benzo(a)pyrene	50-32-8	2 J	0.3	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Chrysene	218-01-9	2 J	0.2	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	61	0.9	1
10334	Fluorene	86-73-7	0.6 J	0.3	1
10334	Naphthalene	91-20-3	0.2 J	0.2	1
10334	Phenanthrene	85-01-8	3 J	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
Metals SW-846 6010B					
07051	Chromium	7440-47-3	2.1 J	1.3	1
07055	Lead	7439-92-1	11.3 J	4.7	1
Wet Chemistry EPA 335.4					
00237	Total Cyanide (water)	57-12-5	N.D.	5.0	1
EPA 1664A					
00612	SGT-HEM (TPH)	n.a.	N.D.	1,400	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	E142321AA	08/20/2014 12:28	Jason M Long	1
10334	SVOCs 625	EPA 625	1	14231WAE625	08/20/2014 22:38	Holly Berry	1
08108	625 Water Extraction	EPA 625	2	14231WAE625	08/20/2014 09:30	David S Schrum	1
07051	Chromium	SW-846 6010B	1	142301848004	08/20/2014 17:58	John P Hook	1
07055	Lead	SW-846 6010B	1	142301848004	08/20/2014 17:58	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142301848004	08/19/2014 13:24	James L Mertz	1
00237	Total Cyanide (water)	EPA 335.4	1	14232102101A	08/21/2014 10:16	Joseph E McKenzie	1

Sample Description: MW-40 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567476
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 11:59 by C

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00492	Cyanide Water Distillation	EPA 335.4	1	14232102101A	08/20/2014 12:00	Joseph E McKenzie	1
00612	SGT-HEM (TPH)	EPA 1664A	1	14237807801A	08/25/2014 10:34	Yolunder Y Bunch	1

Sample Description: MW-86 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567477
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 08:57 by C

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Submitted: 08/15/2014 17:33

Reported: 08/28/2014 10:39

MHR86

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles EPA 624					
10371	Benzene	71-43-2	N.D.	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1
GC/MS Semivolatiles EPA 625					
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
Metals SW-846 6010B					
07051	Chromium	7440-47-3	N.D.	1.3	1
07055	Lead	7439-92-1	N.D.	4.7	1
Wet Chemistry EPA 335.4					
00237	Total Cyanide (water)	57-12-5	N.D.	5.0	1
EPA 1664A					
00612	SGT-HEM (TPH)	n.a.	N.D.	1,400	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	E142321AA	08/20/2014 12:52	Jason M Long	1
10334	SVOCs 625	EPA 625	1	14228WAC625	08/18/2014 17:38	William H Saadeh	1
08108	625 Water Extraction	EPA 625	1	14228WAC625	08/17/2014 21:00	Nicholas W Shroyer	1
07051	Chromium	SW-846 6010B	1	142301848004	08/20/2014 18:02	John P Hook	1
07055	Lead	SW-846 6010B	1	142301848004	08/20/2014 18:02	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142301848004	08/19/2014 13:24	James L Mertz	1
00237	Total Cyanide (water)	EPA 335.4	1	14232102101A	08/21/2014 10:17	Joseph E McKenzie	1

Sample Description: MW-86 Grab Groundwater
Sunoco M.H. (RCRA)

LL Sample # WW 7567477
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014 08:57 by C

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHR86

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00492	Cyanide Water Distillation	EPA 335.4	1	14232102101A	08/20/2014 12:00	Joseph E McKenzie	1
00612	SGT-HEM (TPH)	EPA 1664A	1	14237807801A	08/25/2014 10:34	Yolunder Y Bunch	1

Sample Description: Trip Blank Water
Sunoco M.H. (RCRA)

LL Sample # WW 7567478
LL Group # 1496519
Account # 11183

Project Name: Sunoco M.H. (RCRA)

Collected: 08/14/2014

Stantec

1060 Andrew Drive

Submitted: 08/15/2014 17:33

Suite 140

Reported: 08/28/2014 10:39

West Chester PA 19380

MHRTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	EPA 624	ug/l	ug/l	
10371	Benzene	71-43-2	N.D.	0.9	1
10371	Ethylbenzene	100-41-4	N.D.	0.8	1
10371	Toluene	108-88-3	N.D.	0.8	1
10371	Xylene (total)	1330-20-7	N.D.	0.9	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10371	BTEX by 624	EPA 624	1	E142321AA	08/20/2014 13:18	Jason M Long	1

Quality Control Summary

Client Name: Stantec

Group Number: 1496519

Reported: 08/28/14 at 10:39 AM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: E142321AA	Sample number(s): 7567476-7567478							
Benzene	N.D.	0.9	ug/l	99	98	80-120	0	30
Ethylbenzene	N.D.	0.8	ug/l	100	96	80-120	4	30
Toluene	N.D.	0.8	ug/l	102	99	80-120	3	30
Xylene (total)	N.D.	0.9	ug/l	101	97	80-120	4	30
Batch number: M142321AA	Sample number(s): 7567473-7567475							
Benzene	N.D.	0.9	ug/l	93		80-120		
Ethylbenzene	N.D.	0.8	ug/l	96		80-120		
Toluene	N.D.	0.8	ug/l	96		80-120		
Xylene (total)	N.D.	0.9	ug/l	96		80-120		
Batch number: 14228WAC625	Sample number(s): 7567473-7567475, 7567477							
Acenaphthene	N.D.	0.3	ug/l	99		83-117		
Anthracene	N.D.	0.2	ug/l	103		75-116		
Benzo(a)anthracene	0.3 J	0.2	ug/l	99		76-117		
Benzo(a)pyrene	N.D.	0.3	ug/l	100		69-143		
Di-n-butylphthalate	N.D.	0.5	ug/l	106		84-116		
Chrysene	0.3 J	0.2	ug/l	102		81-118		
bis(2-Ethylhexyl)phthalate	N.D.	1.	ug/l	103		86-125		
Fluorene	N.D.	0.3	ug/l	103		80-116		
Naphthalene	N.D.	0.2	ug/l	87		77-108		
Phenanthrene	N.D.	0.2	ug/l	101		80-119		
Phenol	N.D.	0.4	ug/l	36		30-70		
Batch number: 14231WAE625	Sample number(s): 7567476							
Acenaphthene	N.D.	0.3	ug/l	102	99	83-117	3	30
Anthracene	N.D.	0.2	ug/l	100	100	75-116	0	30
Benzo(a)anthracene	N.D.	0.2	ug/l	97	98	76-117	1	30
Benzo(a)pyrene	N.D.	0.3	ug/l	94	98	69-143	4	30
Di-n-butylphthalate	N.D.	0.5	ug/l	97	101	84-116	4	30
Chrysene	N.D.	0.2	ug/l	101	101	81-118	1	30
bis(2-Ethylhexyl)phthalate	N.D.	1.	ug/l	103	105	86-125	3	30
Fluorene	N.D.	0.3	ug/l	101	100	80-116	0	30
Naphthalene	N.D.	0.2	ug/l	84	87	77-108	3	30
Phenanthrene	N.D.	0.2	ug/l	100	100	80-119	1	30
Phenol	N.D.	0.4	ug/l	49	52	30-70	6	30
Batch number: 142301848004	Sample number(s): 7567473-7567477							
Chromium	N.D.	1.3	ug/l	99		90-110		
Lead	N.D.	4.7	ug/l	106		88-116		
Batch number: 14232102101A	Sample number(s): 7567473-7567477							
Total Cyanide (water)	N.D.	5.0	ug/l	104		90-110		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Stantec

Group Number: 1496519

Reported: 08/28/14 at 10:39 AM

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14237807801A	Sample number(s): 7567473-7567477							
SGT-HEM (TPH)	N.D.	1,400.	ug/l	67	67	64-114	1	18

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: M142321AA	Sample number(s): 7567473-7567475 UNSPK: P569257								
Benzene	104	103	83-132	1	30				
Ethylbenzene	104	105	82-124	1	30				
Toluene	103	105	84-123	2	30				
Xylene (total)	104	104	79-130	0	30				
Batch number: 14228WAC625	Sample number(s): 7567473-7567475,7567477 UNSPK: P565785								
Acenaphthene	105	99	83-119	5	30				
Anthracene	106	104	79-123	2	30				
Benzo(a)anthracene	102	100	86-116	2	30				
Benzo(a)pyrene	102	102	70-121	1	30				
Di-n-butylphthalate	109	106	68-115	3	30				
Chrysene	107	106	78-125	1	30				
bis(2-Ethylhexyl)phthalate	108	105	78-132	2	30				
Fluorene	106	102	74-109	4	30				
Naphthalene	102	96	84-115	6	30				
Phenanthrene	105	105	82-120	0	30				
Phenol	52	48	10-80	8	30				
Batch number: 142301848004	Sample number(s): 7567473-7567477 UNSPK: P565777 BKG: P565777								
Chromium	96	96	76-120	1	20	N.D.	N.D.	0 (1)	20
Lead	101	102	75-125	0	20	N.D.	N.D.	0 (1)	20
Batch number: 14232102101A	Sample number(s): 7567473-7567477 UNSPK: P566895 BKG: P566895								
Total Cyanide (water)	105		90-110			N.D.	N.D.	0 (1)	20
Batch number: 14237807801A	Sample number(s): 7567473-7567477 UNSPK: P565795								
SGT-HEM (TPH)	0*		64-132						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 624

Batch number: E142321AA

1,2-Dichloroethane-d4	Fluorobenzene	4-Bromofluorobenzene
7567476	103	100
		94

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Stantec
Reported: 08/28/14 at 10:39 AM

Group Number: 1496519

Surrogate Quality Control

7567477	101	100	96
7567478	100	98	96
Blank	103	100	98
LCS	105	100	101
LCSD	99	100	99

Limits: 76-114 80-120 86-115

Analysis Name: VOCs- 5ml Water by 624
Batch number: M142321AA

	1,2-Dichloroethane-d4	Fluorobenzene	4-Bromofluorobenzene
7567473	101	94	92
7567474	101	94	92
7567475	101	91	90
Blank	100	94	95
LCS	99	98	103
MS	101	100	101
MSD	97	99	103

Limits: 76-114 80-120 86-115

Analysis Name: SVOCs Method 625
Batch number: 14228WAC625

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol
7567473	96	101	98	27	49	102
7567474	94	101	104	30	53	100
7567475	96	100	103	28	50	98
7567477	100	104	105	30	44	97
Blank	96	95	104	27	45	101
LCS	101	107	109	31	49	102
MS	101	107	108	46	73	99
MSD	102	105	109	44	69	97

Limits: 69-123 76-123 69-130 10-77 10-114 36-140

Analysis Name: SVOCs Method 625
Batch number: 14231WAE625

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol
7567476	97	101	98	38	62	89
Blank	92	95	105	38	63	91
LCS	95	104	109	43	68	91
LCSD	97	101	109	46	70	89

Limits: 69-123 76-123 69-130 10-77 10-114 36-140

*- Outside of specification

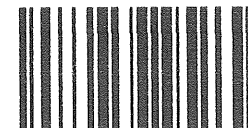
- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 11183 For Eurofins Lancaster Laboratories Environmental use only
Group # 1496519 Sample # 7567473-18
Instructions on reverse side correspond with circled numbers.



355823

1 Client Information				4 Matrix				5 Analysis Requested												For Lab Use Only	
Client: <u>Stantec</u>		Acct. #:		<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Potable <input type="checkbox"/> Surface <input type="checkbox"/> NPDES <input type="checkbox"/> Other:				Preservation Codes												FSC: _____	
Project Name/ #: <u>MHC RCRA Sampling</u>		PWSID #:						# # # # # # # # # # # # # # # #												SCR#: <u>158660</u>	
Project Manager: <u>Stephanie Andrews</u>		P.O. #:		<input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Other:				EPA 624 Water EPA 635 Water Extraction Metals by SW396-6010B Total Cyanides (TCN) SGT-HEM (TPH)												Preservation Codes	
Sampler: <u>Correll / Dubinski</u>		Quote #:																		H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other	
Name of state where samples were collected: <u>PA</u>		3		Grab Composite				Total # of Containers												6 Remarks	
2 Sample Identification		Collected																			
		Date	Time																		
MW-17		8-14-14	0955	X			X	9	X	X	X	X	X					EPA 624: Benzene, Toluene, Ethylbenzene, Total Xylenes			
MW-28			1039	X			X	9	X	X	X	X	X					EPA 635 Acenaphthene,			
MW-30			1125	X			X	9	X	X	X	X	X					Anthracene, Benzoxanthracene,			
MW-40			1159	X			X	9	X	X	X	X	X					Benzo(a)pyrene			
MW-86			0857	X			X	29	X	X	X	X	X					Bis(2-Ethylhexyl)phthalate,			
Trip Blank								2	X									Chrysene, Di-n-butyl phthalate,			
																		Fluorene, Naphthalene,			
																		Phenanthrene, Phenol			
																		Metals: Chromium, Lead			

7 Turnaround Time (TAT) Requested (please circle)				Relinquished by		Date		Time		Received by		Date		Time		9	
Standard				Bottle Storage													
(Rush TAT is subject to laboratory approval and surcharge.)				Lauri Lauer		8/15/14		1228		Beverly		8/15/14		1228			
Date results are needed: _____				Mark Deeringer		8/15/14		1147									
E-mail address: <u>Stephanie.andrews@stantec.com</u>																	

8 Data Package Options (circle if required)				Relinquished by				Date		Time		Received by		Date		Time	
Type I (Validation/non-CLP)				Type VI (Raw Data Only)													
Type III (Reduced non-CLP)				TX TRRP-13													
Type IV (CLP SOW)				MA MCP CT RCP													

EDD Required? (Yes) No				Relinquished by Commercial Carrier:			
If yes, format: <u>EQUIS</u>				UPS _____ FedEx _____ Other _____			
Site-Specific QC (MS/MSD/Dup)? Yes No				Temperature upon receipt <u>32-47°C</u>			
(If yes, indicate QC sample and submit triplicate sample volume.)							

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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